Grazing in Georgia...

To Improve Livestock Production Efficiency



USDA Natural Resources Conservation Service

Model Farm Demonstrations



United States Department of Agriculture Natural Resources Conservation Service

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Establishing the Model Farms...

The Georgia Grazing Lands Model Farm project was initiated by the USDA Natural Resources Conservation Service (NRCS) in 1996 in response to the agency's increased emphasis on grazing land management. The focus of Georgia's Model Farm project is to increase production efficiency of livestock operations, thereby increasing on-farm profit potential. Over the past several years, producers participating in the Model Farm project have experienced economic highs and lows with the cattle market, and have weathered environmental extremes that have had a dramatic impact on forage production. Accordingly, the practices recommended to producers participating in the project have passed the test of time and are basic to efficient livestock and forage management.

Specialists from NRCS and the University of Georgia Cooperative Extension Service have cooperated on the Model Farm project to make it the success story that it is. In fact, cooperation between the agencies at the county level is necessary to select Model Farm participants. NRCS District Conservationists and County Extension Agents select open-minded managers willing to make changes to their operation and learn from the project. In addition, participants have to be willing to spread the word about the usefulness and value of the recommended practices they use on their operation.

Once selected, Model Farm participants are asked to complete a cost of production economic survey. The results of the economic survey, along with information collected during an on-farm visit, are used to recommend practices that will increase production efficiency and farm profits. In essence, the weakest links of the production chain are identified so practices that will strengthen the operation can be suggested. Once the recommended practices are in use on the farm, the economic survey is completed and analyzed again for a before and after comparison of production efficiency.



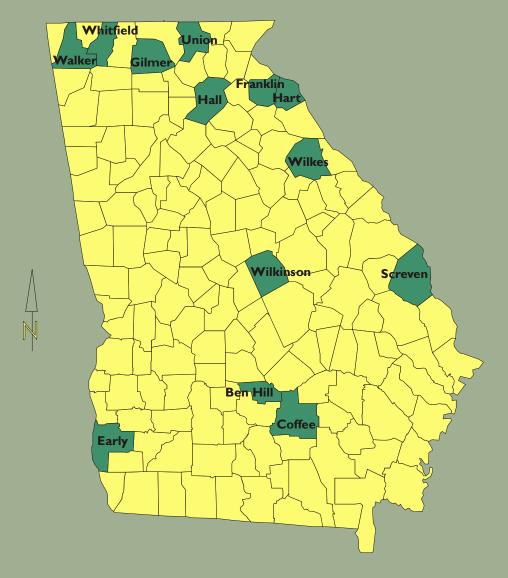
Focus on production efficiency...

Because of its efficiency and production focus, the Model Farm project is not a typical conservation cost-share assistance program. While some participants have received cost-share assistance for replacing their current herd bulls with new and proven bulls, other producers have needed improved working facilities for herd health management, hay storage structures or improved pasture management practices. It has been said that producers either manage their cows or manage their pastures, but generally not both. A goal of the Model Farm program is to point out the benefits of careful management of all resources, including livestock, forage and water resources.

The 13 Model Farm participants in Georgia are in varying stages of completion of their production efficiency plans. While management changes on some farms are still being discussed and planned, several producers have completely applied their plans. The practices in the Model Farm plans are scheduled so they can be completed over a three-year period. Producers are typically limited to \$10,000 in cost-share assistance and pay 20% of the cost of installing the planned practices.



Model Farm Demonstration Locations



Model Farms are being established throughout Georgia to make them accessible outdoor classrooms for livestock producers.

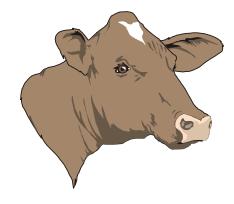
Livestock and Resource Assessment...

With a variety of production and conservation resource professionals on hand, producers were asked specific questions to determine which aspects of their cow-calf operation required special attention.

Typical Questions Asked During the On-farm Visit

- 1. Do you use a controlled breeding season?
- 2. How did you select your bull?
- 3. Do you pregnancy check your cows?
- 4. Do you grow replacement heifers or purchase them?
- 5. What is included in your herd health program?
- 6. Do you identify your cows?
- 7. What is your forage base?
- 8. Do you soil test and fertilize on a regular basis?
- 9. How are your pastures divided?
- 10. Do you grow your own hay?
- 11. How do you store your hay?
- 12. How do you feed hay?
- 13. How do you provide drinking water for your herd?





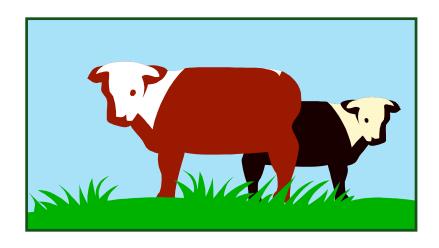
Do you use a controlled breeding season? Do you pregnancy check your cows?

The production efficiency of a livestock operation is largely dependent on a controlled breeding (and calving) season. While it may take some time and management changes to get there, a maximum 90-day breeding season should be the objective. Simply stated, a controlled breeding season is the cornerstone of livestock management and record-keeping. Routine herd management activities such as vaccinations, worming, castration, and dehorning are simplified, and more effective and economical when cows are on a controlled calving season and calves are of a similar age and weight. Naturally, when these management activities are simplified, they become part of the producer's established routine.

In addition to simplifying management, profits can be increased with a controlled calving season since buyers are more likely to purchase and pay a higher price for uniform groups of calves. Pregnancy checking cows, meeting their nutritional requirements for lactation and rebreeding, making informed culling decisions, and timely health management practices are needed for an efficient livestock operation; however, these management practices become difficult or impractical when cows calve throughout the year and livestock records are not kept. With yearlong calving, many beneficial practices become troublesome and are either delayed or simply not performed.

Reproductive rate has the #1 impact on the profitability of a cow-calf enterprise.





What do you need to establish a controlled breeding season? For the nine months of the year when the bull is not with the cow herd, the bull should be maintained in a dedicated bull lot or pasture. Depending on how much of the bull's intake requirement is provided from feed versus grazed forage, a typical bull lot allows 1.5 to 3 acres per bull. When establishing a bull lot, consider electric fencing in addition to standard fencing to reliably contain the bull. Separating the bull from the cow herd to the extent possible is recommended. Watering facilities and shade must also be considered when determining the location of the bull lot. Several bulls of similar age and strength can be maintained in the same lot. You may need to separate young, growing bulls from mature herd bulls.

Establishing a dedicated bull lot was recommended as an essential practice to seven Model Farm producers. To complement this recommended practice, cost-share assistance to pregnancy check the cow herd was offered to four participants. If cows do not cycle, do not rebreed, and do not produce a calf within the desired time frame, they become a burden to the operation rather than an asset. Pregnancy checking a cow removes any doubt as to her reproductive status.

How did you select your bull?

When trying to figure out what management changes should be made to a producer's operation, one of the first questions that should be asked is "how did you select your bull?" With the anticipation of increasing farm profits, managers often look to their pastures to make major production changes. But even if different pasture management options are adopted, can profits be maximized if the genetic potential of the livestock herd is lacking? Do you start making changes to the herd or the forage base first? The answer to this question can be determined in part by considering the factors used in selecting and purchasing a bull.

The bull is the most important animal in most herds. This is especially true when replacement heifers are selected from calves produced on the farm, eventually becoming members of the brood cow herd. The bull's genetic contribution to replacement heifers is reflected in the calves they produce, and is therefore reflected in farm profits even after the bull is sold. The basic question is this, "did you select your bull because he looked good or was the selection made by reviewing your bull's expected progeny differences (EPDs) to determine if he had traits that would complement your brood cow herd?

EPDs are calculated across herds of the same breed and include performance information on a bull's relatives as well as his own. They are breed specific and should not be used to compare bulls of different breeds. Reported EPD traits vary among breed associations, but typically include performance information for birth, and weaning and yearling weights expressed as pounds of calf. There are also EPDs for calving ease, milk production, frame size, and carcass traits. Bull selection ultimately depends on the characteristics of the brood cow herd and the producer's objectives. A bull that is well suited to one herd may not be appropriate for the next.

AngusBrahmanCharolaisHerefordLimousinSimmental

Assistance to select and purchase a bull with known EPDs was offered to five Model Farm producers. Rozier and Linda Wingate, Gilmer County, used cost-share assistance to replace their existing bull with one of known quality. This decision eventually resulted in a complete overhaul of their brood cow herd. To replace their diverse and aging brood cows, the Wingates purchased uniform, bred replacement heifers with traits complementary to the new bull. Calves produced on their



farm used to be sold as very small groups or as individual animals at the sale barn. Now, uniform groups of calves are produced and sold on a contractual basis. The buyer now comes to their farm to pick up their high quality calves.

At the Blairsville Model Farm location, assistance to improve herd genetics took the form of an artificial insemination (AI) program. Artificial insemination of beef cattle allows a producer to use more than one breed of bull each year in a small herd. Before using AI, Bobby Lance, Union County, participated in an AI training course to become better educated on AI techniques. In addition to the AI program, assistance was provided to Lance to evaluate the quality of the calves produced on his farm. Six heifers were entered in the Heifer Evaluation and Reproductive Development (HERD) Program. The heifers were scored for disposition and measured for frame size, ribeye area and pelvic area. Six other animals produced on the farm and ready for feed out were entered in the Georgia Beef Challenge. Carcass and economic performance data for these animals were provided to Lance. With performance measurements for cattle intended as replacements or those ready for sale, producers can make informed breeding, nutrition, and retained ownership decisions.

Do you grow replacement heifers or purchase them?

Many small operations have difficulty producing their own replacement heifers since these animals require special handling to become productive members of the brood cow herd. Because heifers are still growing and require nutritional inputs for their own growth as well as for reproduction, lactation and maintenance, the quality of their diet needs to be higher than that of mature brood cows.

A growing heifer requires a diet with a minimum 13% crude protein and 65% total digestible nutrient content; and should gain 1-1 ½ lb per day after weaning to breed at age 14-15 months. In comparison to a bred, dry brood cow that requires a diet of only 7-8% crude protein and 50% total digestible nutrient content, you can see that maintaining growing and mature animals on the same pasture can achieve very different results. On high quality pasture, brood cows may become fat, while lower quality pasture may not provide the protein and energy that a growing heifer requires to mature and efficiently reproduce.





Heifers should be grouped and fed according to their nutritional requirements. They should be exposed to the bull 30 days in advance of when the mature cows breed. Heifers should be pregnancy checked 60 days after taking the bull out and all open heifers should be culled. A good plan to meet the nutritional requirements of heifers should be followed until after they have calved for the first time and been rebred.

Purchasing bred heifers or simply purchasing mature cows rather than producing them simplifies management decisions on small livestock farms and makes all calves produced on the farm available for sale. If replacement heifers are produced on the farm, managers should consider taking advantage of evaluation programs, such as HERD and the Georgia Beef Challenge, to evaluate the animals they produce and to improve how they manage their breeding stock.

What is included in your herd health program? Do you identify your cows?

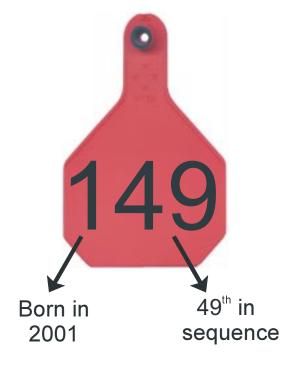
Proper preventive treatment of diseases and parasites is necessary to maintain a healthy herd and realize profitable weight gains.

Recommendations for administering vaccinations for communicable diseases and giving treatments for internal and external parasites are available from large animal veterinarians and County Extension Agents.

Animal identification is considered an essential practice in any well-managed beef cattle operation. There are two purposes for identifying cows:

1) to establish ownership, and 2) individual animal identification for keeping performance records. Individual

identification is an important management practice and is necessary to operate a profitable livestock enterprise. Cattle producers must be able to identify their cows to make informed management decisions. One of the simplest ways to do this is to assign a number and attach the corresponding ear tag. While ear tags are probably the simplest and most commonly used tool to identify animals, they can fall out and be more temporary than permanent. Producers may opt to tattoo their cows for permanent identification.





A cattle numbering system should provide several key pieces of information. First, the numbering system should identify individual animals. By numbering an individual animal, you can keep performance, health, or other records on a cow. When this individual number is put on a calf, you can also record the calf's date of birth, sex, dam and sire numbers, weaning weight, and any other important information. Recording this type of information is the first step in a performance testing program. When used to cull cows, choose bulls or make other management decisions, the profitability of the herd can be increased. Second, a numbering system should also show, at a glance, the breeding or type of crossbreed of a cow. This information should be used to plan a crossbreeding or breed improvement program. It is also useful to be able to read directly from an identification number the year an animal was born. Record keeping books and computer programs are available for storing information by individual number.

What is your forage base? Do you soil test and fertilize on a regular basis? How are your pastures divided?

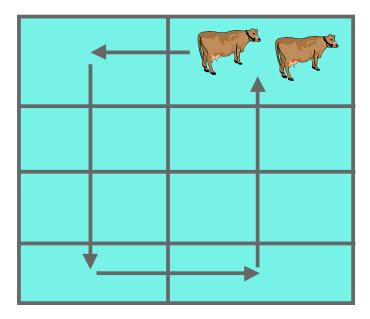
Forages are generally categorized as 1) grasses or legumes, 2) annuals or perennials, and 3) cool-season or warm-season plants. Grasses provide the mainstay for grazing cattle in Georgia. Legumes are known for their exceptional forage quality and are usually grown in combination with a grass. Annual plants germinate, grow, produce seed, and die within one year. Perennial plants live for more than one year, although they may become dormant during parts of the year. Perennials spread by rhizomes and stolons, and also reproduce by seed. Cool-season plants are usually planted or begin growth in the autumn, and make most of their growth during the coolest months of the year. Warm-season plants are usually planted or begin growth in the spring, and make most of their growth during the warmest months of the year.

The following list categorizes some of Georgia's most frequently grown forage crops:

- · Bahiagrass and bermudagrass warm-season perennial grasses
- · Tall fescue and orchardgrass cool-season perennial grasses
- · Pearl millet and sorghum-sudan hybrids warm-season annual grasses
- · Ryegrass, wheat and rye cool-season annual grasses
- Sericea lespedeza warm-season perennial legume
- White and red clover- cool-season perennial legumes (red clover acts as short-lived perennial or annual)
- · Cowpea and velvetbean warm-season annual legumes
- · Arrowleaf and crimson clover cool-season annual legumes

One of the most effective ways to have yearlong grazing in Georgia is to use mixtures of warm- and cool-season plants. In Georgia's Piedmont, tall fescue and common bermudagrass grow well together and provide nearly yearlong grazing. In Georgia's Coastal Plain, producers often choose to overseed bermudagrass with small grains and clover to maintain production on the same acreage during the winter and early spring months.

Another way to extend the grazing season and increase forage production is to manage cattle with rotational stocking. With rotational stocking, cattle are rotated through a series of small pastures according to the amount of forage that is available for grazing. Rotational stocking provides for no-graze periods in which pasture plants restore energy reserves needed for regrowth and then generate new leaves. In contrast, animals remain on the same pasture throughout the growing season with continuous stocking.



Research suggests that stocking rate can be increased by about 25% with rotational stocking compared to continuous stocking. Rotational pastures can support more animals because 1) grazing selectivity is reduced and more of the available forage is consumed and 2) the rest period makes for more productive plants. To maintain high forage productivity, managers must control the amount of time animals are on the pasture so the proper minimum grazing height for regrowth remains. For example, tall fescue plants should not be grazed any closer than 3 - 4" from the soil surface to maintain healthy, productive pastures. Bahiagrass and bermudagrass can be grazed to within 2 - 3" of the soil surface without causing injury to the plant.



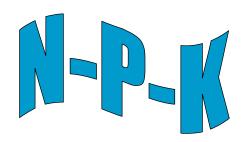
Research in the southeast U.S. suggests that rotational stocking is most beneficial for cow-calf operations. Rotational stocking supports higher stocking rates and increased weight gain per area. The reduced grazing selectivity associated with rotational stocking can result in consumption of lower quality forage and decreased average daily gain, and is therefore not recommended for grazing stockers or replacement heifers.

Several Model Farm producers used cost-share assistance to install electrified cross-fencing to make several small pastures out of a single large pasture. When dividing their pastures into smaller units for rotational stocking, to the extent possible, the producers created new pastures of similar growth potential and carrying capacity. Additionally, the producers made changes or additions to their existing water facilities to make fresh water available in each of the pastures.

Regardless of stocking method or choice of forage type, pasture plants require nutrients for optimum productivity. Nutrients should be supplied according to a nutrient management plan. A nutrient management plan is based on realistic yield goals, soil test results, laboratory analysis of manures or other organic by-products, and nutrient recommendations for the pasture species. Nutrient management plans emphasize the application of recommended rates of nutrients with calibrated equipment during periods of active plant growth. When manure or organic by-products are used as the source of nutrients, nutrient management plans can be either nitrogen or phosphorus based depending on water quality concerns.

From inorganic fertilizer application to use of animal manures, nutrient management is emphasized in every Model Farm project plan. In Coffee County, J.L. Paulk used cost-share assistance to install pipe for pumping swine lagoon effluent onto his hybrid bermudagrass hayfield. Nutrients in the effluent are applied to the hayfield according to a nutrient management plan.

The nutrients in the effluent are efficiently recycled since the hay that is produced is removed from the application field and fed to cattle on different areas of the farm. Nutrient management plans provide a mechanism to correctly and efficiently use valuable on-farm nutrient resources such as lagoon effluent and broiler litter.



Do you grow your own hay? How do you store your hay? How do you feed hay?

Considering land and equipment costs, and proper management to produce high quality hay, hay production is often the single most expensive practice on a beef producer's farm. Add in the value of hay lost during storage, handling and feeding, and the cost of feeding each ton of hay goes even higher. The typical hay feeding season in Georgia lasts for 90-120 days. An efficient producer can minimize the hay feeding season and feed as little as one ton of hay per animal per year. Rotational grazing, the use of warm- and cool-season forages, and stockpiling are management practices that can reduce the amount of hay that needs to be fed. Hay storage structures, drained pads and special tarp-like covers can help reduce storage losses, while limit-feeding strategies can reduce the amount of hay that is wasted by livestock.



Simply put, some livestock producers may be better off purchasing quality hay rather than trying to grow their own. On the other hand, producing hay on the farm helps give producers a feeling of security when hay supplies from commercial sources are inconsistent. Whether produced on the farm or purchased, hay must be properly stored to maintain its quality; and to know its quality, hay must be sampled and tested.

Hay losses occur as dry matter, nutrient and refusal losses. If protected from the weather, hay can be stored indefinitely with little loss. For hay stored outside, unprotected for several months in Georgia's humid climate, dry matter loss between baling and feeding may be 30% or more. A significant portion of this loss results from hay being placed in direct contact with soil and soil moisture.

Research suggests the following ranking of storage methods to prevent dry matter and nutrient loss:

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#1 barn storage
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#2 drained surface with plastic cover across tops of bales

#3 plastic sleeve

#4 net wrap

#5 drained surface

#6 plastic cover across tops of bales

#7 pyramid stack with plastic cover across tops of bales

#8 bales placed on the ground with no cover

The majority of hay produced in Georgia is stored on the ground with no cover.

Hay loss also occurs as livestock refuse low quality hay, pull it away from the bale and then trample the hay into the ground. Or, just picture the round bale of hay whose outer core is virtually intact while the center of the bale has been eaten out. Livestock preferentially consume hay with high digestibility and nutrient content to satisfy their intake needs. To help regulate how accessible hay is to livestock it should be fed using a wagon, manger or hay ring, or it can be unrolled.

The Cooperative Extension Service's cost of production economic survey is ideally suited to evaluating hay production and feeding costs; and revealing these oftentimes hidden costs to producers. The beauty of the economic analysis is how it relates production and feeding costs (and investments and profits) back to cattle by providing \$/cow figures. Of the economic survey data collected, hay production and feeding costs were one of the major areas the Model Farm project could address.

Three producers used cost-share assistance from the Model Farm project to improve their hay storage methods. Knowing the value of properly stored hay, Jerry Fleming, Hart County, had a barn specifically for hay storage, but his barn was destroyed by a fire. When approached to participate in the project, a top priority for Fleming was to construct a new hay-storage structure. With a new barn built, Fleming performed a test to measure loss differences for barn versus outside stored hay. For tall fescue hay, dry matter loss for hay stored in the barn averaged 2.2%, while dry matter loss for hay stored outside on the ground was 7.4%. Including feeding losses, dry matter loss for tall fescue hay stored in the barn averaged 6.7%, while dry matter loss for hay stored outside on the ground was 14.6%. These results were obtained in 1999-2000, a period with well below normal rainfall. In a normal rainfall year, the benefits from storing hay under cover on a dry surface (in the barn) would be even more striking.

Ike Newberry of Early County opted to use breathable tarps to cover hay bales placed as a three-stack pyramid on a drained surface. Newberry has been so pleased with this method of hay storage that he plans to expand this practice without cost-share assistance. And while cost-share funds are being used for other practices on their farm, Charles and Mary Shaw of Walker County constructed a pole barn (with resources on the farm) to store their hay under cover. The savings from preventing hay losses and reducing the amount of hay that has to be put up can pay for hay barn construction within just a few years; or the savings can be applied to other worthwhile purposes.

How do you provide drinking water for your herd?



Cattle require clean drinking water for optimum performance. While many cattle producers allow their livestock to obtain drinking water directly from streams and farm ponds, the current recommendation to protect water quality is to use these sources of water but with alternative supply methods. For example, graveled watering ramps with restricted access can be constructed into streams and ponds. Or more simply, sections of the water body can be fenced to allow restricted or rotated access. The key to protecting water quality with these alternative water supply practices is restricted, controlled access. Additionally, many producers are choosing to use pipe and gravity flow to supply drinking water troughs located downslope of farm pond dams. Well water is also a common source of drinking water. To reduce waste, special drinkers or nose pumps can be installed to supply water. Several Model Farm producers made changes to their existing water supply systems.

Model Farm - Case Study

Owners/Operators: Rozier and Linda Wingate, Old Orchard Farm

Location: Ellijay, Gilmer County, Georgia

Type of Operation: Cow/calf, commercial hay, pullets, compost

Model Farm Practices: 'Black Angus' bull with known EPDs purchased

Identification and record-keeping system intensified

Pregnancy check brood cows Livestock working facilities

Cross-fencing for rotational stocking

Alternative water supply; springs fenced out Heavy use area protection for watering pad and

travel lane

Overseeding endophyte-infected tall fescue with

orchardgrass and clover

Nutrient management planning

Fecal sample analysis for forage quality

Hay quality testing

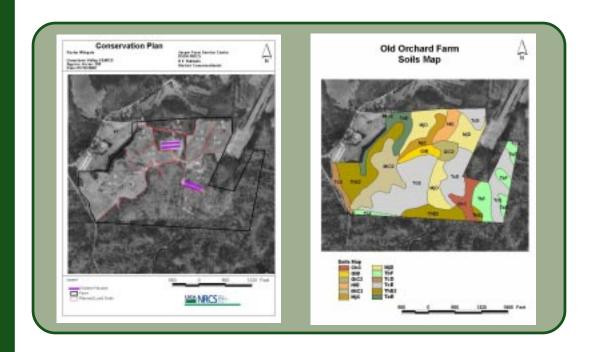




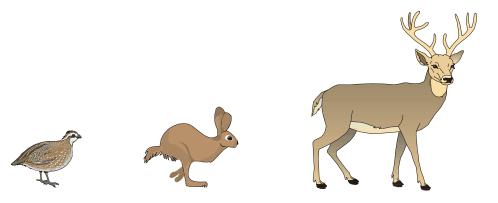
Amazing changes were observed in the economics and structure of the operation between 1996 and present. With the purchase of the Black Angus bull came the overhaul of the brood cow herd and their replacement with 40 bred 34 Angus - 14 Gelbvieh heifers. With the changes in herd genetics and improved pasture management, a 13% increase in weaning weight has been observed. Hay production and hay feeding costs have decreased substantially and more of the hay that is produced on the farm is available for commercial sales. The out of pocket feed costs are about the same, yet reflect a strategic use of supplements to balance hay of known quality.

| Item | 1996 | 2000 | Change |
|----------------------|-----------|-----------|--------|
| Hay fed per cow | 2½ tons | 1 ton | - 60% |
| Calving percentage | 87% | 95% | + 9% |
| Stocking rate | 0.8 cow/A | 1 cow/A | + 25% |
| Total variable costs | \$219/cow | \$92/cow | - 58% |
| Total fixed costs | \$42/cow | \$70/cow | + 67% |
| Total costs | \$261/cow | \$162/cow | - 38% |
| Net return | \$66/cow | \$260/cow | + 294% |

Rotational stocking and improved pasture management practices have resulted in greater forage availability and increased stocking rate. Total variable costs (feed, pasture production, veterinarian services, minerals, hay, etc.) have decreased while total fixed costs (breeding stock, equipment, facilities, land costs, interest, etc.) have increased. The increase in total fixed costs represents a higher investment in the quality of the breeding stock and in capital improvements such as fencing, heavy use areas, water supply, and the new working facility. The Wingates are operating at \$100 less per cow comparing 2000 to 1996. Considering the production changes and a better market for calves in 2000, the increase in net returns over the 1996 value is staggering.



In addition to economic and production changes, the environmental impacts of the management changes the Wingates have adopted are also observable. On Old Orchard Farm conservation practices go hand in hand with production concerns. Nutrients from poultry litter are applied according to a nutrient management plan that emphasizes phosphorus loading, litter and soil testing, spreader calibration, and proper application timing. Cattle are restricted from natural water sources and are provided clean drinking water using automatic drinkers on graveled and maintained surfaces. Changes in pasture management, species composition and hay feeding methods have resulted in increased available forage and ground cover. With these changes, deer, quail, turkey, rabbit, and songbird populations have increased.



While all of these changes are exciting and meaningful to the Wingates, their initiative in hosting groups on the farm and informing the farming community about the changes they have experienced has been absolutely tremendous. Truly, enough cannot be said about the willingness of the Wingates to avail themselves for the benefit of agriculture and others. Starting with a grazing management training session in 1997, the Wingates have hosted numerous groups (local, state, regional, and international) on their farm. Since 1997, approximately 3000 people have visited the operation. Old Orchard Farm is an excellent example of farm stewardship, combining conservation, production and economic concerns into a highly successful and diverse family operation. The Wingates gained national recognition as the recipients of the 2000 Tyson Environmental Stewardship Award. Additionally, Georgia Cattlemen's Association recognized the Wingates' efforts in 1999 with their Environmental Stewardship Award.



Partners Working Together

As a result of the Georgia Model Farm project, NRCS and the University of Georgia Cooperative Extension Service are working more closely together on grazing land projects than ever before. In addition to the partnership that has formed between these federal and state agencies, the Georgia Grazing Lands Conservation Coalition has become a working partner to offer the producer's perspective for new project development and management.

The Georgia Grazing Lands Conservation Coalition is a steering committee of producers that represent some of Georgia's strongest and most active livestock, forage and conservation groups. The Georgia Grazing Lands Conservation Coalition was created to initiate producer involvement in strategic planning for grazing land training, participate in the development of innovative production and conservation practices, and to serve as a link to the farming community. In its efforts to assist producers, the Coalition developed a cost-share program that closely resembles the Model Farm project. The Coalition's cost-share program focuses on production efficiency and gives producers an opportunity to obtain financial and technical assistance for applying a variety of practices.

To be selected for cost-share assistance, producers had to submit a written summary of their goals, and how they would use available funds if chosen to participate. During the first round of the program, producers received assistance for installing perimeter and cross-fencing, livestock working facilities, alternative water supply practices, hay storage structures, pasture renovation, and other needed practices.

Georgia Grazing Lands Conservation Coalition

Georgia Grazing Lands Conservation Coalition
Member groups:

American Forage & Grassland Council
Georgia Cattlemen's Association
Georgia Farm Bureau Federation
Georgia Pork Producers
Georgia Poultry Federation
Georgia Soil and Water Conservation Districts
Milk Producers
Soil and Water Conservation Chapter

The Nature Conservancy, Georgia Chapter











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